



Patent No. 402801

PATENT

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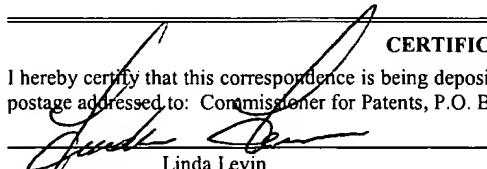
In re application of: Edward Raymond Dowski, Jr.
Application No.: 09/942,392
Filed: 31 August 2001

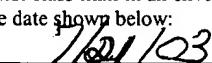
Group No.: 2873
Examiner: Unknown

For: **WAVEFRONT CODING OPTICS**

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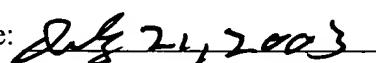
**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT TRANSMISSION
FILED UNDER 37 C.F.R. § 1.97(B)**

Pursuant to 37 C.F.R. §§ 1.56, 1.97(b) and 1.98, Applicant hereby submits a Supplemental Information Disclosure Statement Form PTO-1449 (modified) along with copies of all references cited therein.

Applicant submits that the cited references, taken alone or in combination, neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested.

Applicant believes no fees are currently due. However, should any additional fees be required in connection with the filing of this Information Disclosure Statement, the Commissioner is hereby authorized to charge said fees to Deposit Account No. 12-0600.

Respectfully submitted,

Date: 

By 
Dan Cleveland, Jr., Reg. No. 36,106
LATHROP & GAGE L.C.
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Boulder, Colorado 80301
Tele: (720) 931-3012
Fax: (720) 931-3001



TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	09/942,392
		Filing Date	31 August 2001
		First Named Inventor	Edward Raymond Dowski, Jr.
		Art Unit	2873
		Examiner Name	Unknown
Total Number of Pages in This Submission	10 pages + 151 cited references	Attorney Docket Number	402801

ENCLOSURES (check all that apply)

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Firm or Individual name	Dan Cleveland, Jr.
Signature	
Date	July 21, 2003

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2873

Practitioner's Docket No. 402919

PATENT

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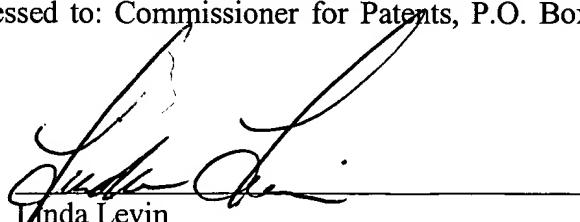
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Date of Deposit: 21 July 2003

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2. Supplemental Information Disclosure Statement Transmittal (1 page)
3. Substitute for Form 1449A/PTO (7 pages)
4. Copies of 151 cited references
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 7

Complete if Known

Application Number	09/942,392
Filing Date	31 August 2001
First Named Inventor	Edward Raymond Dowski, Jr.
Group Art Unit	2873
Examiner Name	Unknown
Attorney Docket Number	402801

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	1	2,959,105		Sayanagi	11-08-1960	
	2.	3,054,898		Westover et al.	09-18-1962	
	3.	3,305,294		Alvarez	02-21-1967	
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	5	3,856,400		Hartmann et al.	12-24-1974	
	6	3,873,958		Whitehouse	03-25-1975	
	7	4,062,619		Hoffman	12-13-1977	
	8	4,082,431		Ward III	04-04-1978	
	9	4,174,885		Joseph et al.	11-20-1979	
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	25	4,734,702		Kaplan	03-29-1988	
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	33	5,003,166		Girod	03-26-1991	
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	37	5,142,413		Kelly	08-25-1992	
	38	5,165,063		Strater et al.	11-17-1992	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 7

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Application Number	09/942,392
Filing Date	31 August 2001
First Named Inventor	Edward Raymond Dowski, Jr.
Group Art Unit	2873
Examiner Name	Unknown

Attorney Docket Number 402801

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
39	5,193,124			Subbarao	03-09-1993	
40	5,243,351			Rafanelli et al.	09-07-1993	
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Sheet 3 of 7

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Application Number	09/942,392
Filing Date	31 August 2001
First Named Inventor	Edward Raymond Dowski, Jr.
Group Art Unit	2873
Examiner Name	Unknown

Attorney Docket Number 402801

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	77	6,172,723		Inoue et al.	01-09-2001	
	78	6,172,799		Raj	01-09-2001	
	79	6,208,451		Itoh	03-27-2001	
	80	6,218,679		Takahara et al.	04-17-2001	
	81	6,219,113		Takahara	04-17-2001	
	82	6,248,988		Krantz	06-19-2001	
	83	5,756,981		Roustaei et al.	05-26-1998	
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FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	1	EPO	0759573 A2		Eastman Kodak Company	02-26-1997		
	2	EPO	0531926 B1		Matsushita Electric Industrial Co., Ltd.	3-17-1993		
	3	EPO	0981245 A2		Canon Kabushiki Kaisha	2-23-2000		
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	5	EPO	0584769 B1		Matsushita Electric Industrial Co., Ltd.	3-2-1994		
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	7	UK	2278750 A		Motion Media Technology Limited	12-7-1994		
	8	JP	2000-98301 A		Olympus Optical Co.	04-07-2000		
	9	WO	99/57599		University Technology Corporation	11-11-1999		
	10	WO	00/52516		Boston Innovative Optics	09-08-2000		
	11	EPO	0742466 A		Johnson & Johnson Vision	11-13-1996		

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Sheet 4 of 7

Complete if Known

Application Number	09/942,392
Filing Date	31 August 2001
First Named Inventor	Edward Raymond Dowski, Jr.
Group Art Unit	2873
Examiner Name	Unknown
Attorney Docket Number	402801

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1	J. OJEDA-CASTANEDA, L. R. BERRIEL-VALDOS, and E. MONTES, "Spatial filter for increasing the depth of focus", Optics Letters, Vol. 10, No. 11, p520-522, November, 1985	
	2	J. OJEDA-CASTANEDA, and A. DIAZ, "High focal depth by quasibifocus", Vol. 27, No. 20, p4163-4165, October 15, 1988	
	3	W. CHI and N. GEORGE, "Electronic imaging using a logarithmic asphere", Optics Letters, Vol. 26, No., 12, p 875-877, June 15, 2001	
	4	J. OJEDA-CASTANEDA, E. TEPICHIN, and A. PONS, "Apodization of annular apertures: Strehl ratio", Applied Optics, Vol. 27, No. 24, p 5140-5145, December 15, 1988	
	5	D. L. MARKS, R. A. STACK, D. J. BRADY, and J. VAN DER GRACHT, "Three-dimensional tomography using a cubic-phase plate extended depth-of-field system", Optics Letters, Vol. 24, No. 4, p 253-255, February 15, 1999	
	6	S. C. TUCKER, W. T. CATHEY, and E. R. DOWSKI, Jr, "Extended depth of field and aberration control for inexpensive digital microscope systems", Optics Express, Vol. 4, No. 11, p467-474, May 24, 1999	
	7	H. BARTELT, J. OJEDA-CASTANEDA, and E. E. SICRE, "Misfocus tolerance seen by simple inspection of the ambiguity function", Applied Optics, Vol 23, No. 16, p 2693-2696, August 15, 1984	
	8	J. OJEDA-CASTANEDA, L. R. BERRIEL-VALDOS, and E. MONTES, "Ambiguity function as a design tool for high focal depth", Applied Optics, Vol 27, No. 4, p 790-795, February 15, 1988	102801 MAIL ROOM JUL 24 2001
	9	J. OJEDA-CASTANEDA, P. ANDRES, and A. DIAZ, "Annular apodizers for low sensitivity to defocus and to spherical aberration", Optics Letters, Vol. 11, No. 8, p 487-489, August, 1986	
	10	J. OJEDA-CASTANEDA, E. TEPICHIN, and A. DIAZ, "Arbitrarily high focal depth with a quasioptimum real and positive transmittance apodizer", Applied Optics, Vol 28, No. 13, p 2666-2670, July 1, 1989	
	11	J. OJEDA-CASTANEDA, and L. R. BERRIEL-VALDOS, "Arbitrarily high focal depth with finite apertures", Optics Letters, Vol. 13, No. 3, p 183-185, March, 1988	102801 MAIL ROOM JUL 24 2001
	12	G. INDEBETOUW, AND H. BAI, "Imaging with Fresnel zone pupil masks: extended depth of field", Applied Optics, Vol 23, No. 23, p 4299-4302, December 1, 1984	
	13	W. T. WELFORD, "Use of annular apertures to increase focal depth", Journal of the Optical Society of America, Vol. 50, No. 8, p 749-753, August, 1960	
	14	C. VARAMIT, and G. INDEBETOUW, "Imaging properties of defocused partitioned pupils", J. Opt. Soc. Am. A, Vol. 2, No. 6, p 799-802, June 1985	
	15	E. R. DOWSKI Jr., and W. T. CATHEY, "Single lens single-image incoherent passive-ranging systems", Applied Optics, Vol 33, No. 29, p 6762-6773, October 10, 1994	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 5 of 7

C mplete if Known

Application Number	09/942,392
Filing Date	31 August 2001
First Named Inventor	Edward Raymond Dowski, Jr.
Group Art Unit	2873
Examiner Name	Unknown
Attorney Docket Number	402801

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
✓	16	W. T. CATHEY, B. R. FRIEDEN, W. T. RHODES, and C. K. RUSHFORTH, "Image gathering and processing for enhanced resolution", J. Opt. Soc. Am. A, Vol. 1, No. 3, p 241-250, March 1984	
✓	17	J. VAN DER GRACHT, E. R. DOWSKI Jr., M. G. TAYLOR, and D. M. DEAVER, "Broadband behavior of an optical-digital focus-invariant system", Optics Letters, Vol. 21, No. 13, p 919-921, July 1, 1996	
✓	18	G. HAUSLER, "A method to increase the depth of focus by two step image processing", Optical Communications, Vol. 6, No. 1, p 38-42, September, 1972	
✓	19	C. J COGSWELL, N. I. SMITH, K. G. LARKIN, and P. HARIHARAN, "Quantitative DIC microscopy using a geometric phase shifter", SPIE, Vol. 2984, p72-81,1997	
✓	20	D. KERMISCH, "Partially coherent image processing by laser scanning", Journal of the Optical Society of America, Vol. 65, No. 8, p 887-891, August, 1975	
✓	21	R. J. PIEPER and A. KORPEL, "Image processing for extended depth of field", Applied Optics, Vol 22, No. 10, p 1449-1453, May 15, 1983	
✓	22	G. E. JOHNSON, E. R. DOWSKI, Jr, and W. T. CATHEY, "Passive ranging through wave-front coding: information and application", Applied Optics, Vol 39, No. 11, p 1700-1710, April 10, 2000	1 JUL 2000
✓	23	G. Y. SIRAT, "Conoscopic holography. I. Basic principles and physical basis", J. Opt. Soc. Am. A, Vol. 9, No. 1, p 70-90, January 1992	2 JUL 2000
✓	24	E. R. DOWSKI, Jr, and W. T. CATHEY, "Extended depth of field through wave-front coding", Applied Optics, Vol 34, No. 11, p 1859-1866, April 10, 1995	3 JUL 2000
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Application Number	09/942,392
Filing Date	31 August 2001
First Named Inventor	Edward Raymond Dowski, Jr.
Group Art Unit	2873
Examiner Name	Unknown
Attorney Docket Number	402801

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Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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First Named Inventor	Edward Raymond Dowski, Jr.
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